

AMENDMENT TO THE CLAIMS

1. **(Currently Amended)** A process for the production of an aqueous sol containing silica-based particles which comprises:

(a) acidifying an aqueous silicate solution to a pH of from 1 to 4 to form an acid sol;

(b) alkalising in a first alkalisation step the acid sol at an SiO₂ content within the range of from 4.5 to 8% by weight to form an alkalisated sol having a pH of at least 7;

(c) allowing particle growth of the alkalisated sol for at least 10 minutes; and

(d) alkalizing in a second alkalization step the obtained sol to a pH of at least 10.0 by adding alkali selected from the group consisting of lithium hydroxide, sodium hydroxide or potassium hydroxide; an aqueous silicate solution, or a mixture thereof.

2 – 25. **Canceled.**

26. **(Previously Presented)** The process according to claim 1, wherein the process further comprises:

(e) concentrating the alkalisated sol obtained according to (b).

27. **(Previously Presented)** The process according to claim 1, wherein the process further comprises:

(e) concentrating the alkalisated sol subjected to particle growth obtained according to (c).

28. **(Previously Presented)** The process according to claim 1, wherein the process further comprises:

(e) concentrating the alkalisated sol obtained according to (d).

29. **(Previously Presented)** The process according to claim 1, wherein the aqueous sol obtained in the process has a specific surface area of at least 90 m²/g aqueous sol.

30. **(Previously Presented)** The process according to claim 26, wherein the aqueous sol obtained in the process has a specific surface area of at least 95 m²/g aqueous sol.

31. **(Previously Presented)** The process according to claim 1, wherein the alkalisation according to (b) and (d) is carried out by means of an aqueous silicate solution.

32. **(Previously Presented)** The process according to claim 1, wherein the particle growth according to (c) is carried out at a temperature within the range of from 35 to 95°C.

33. **(Previously Presented)** The process according to claim 1, wherein the alkalisation according to (d) produces a sol having a molar ratio of SiO₂ to M₂O, where M is alkali metal or ammonium, within the range of from 15:1 to 30:1 and a pH of at least 10.6.

34. **(Previously Presented)** The process according to claim 1, wherein the process further comprises addition of an aluminium-containing compound, a boron-containing compound or a mixture thereof.

35. **(Previously Presented)** The process according to claim 1, wherein the silica-based particles obtained in the process have a specific surface area of at least 550 m²/g SiO₂.

36. **(Withdrawn)** An aqueous sol containing silica-based particles obtained by a process which comprises:

- (a) acidifying an aqueous silicate solution to a pH of from 1 to 4 to form an acid sol;
- (b) alkalising the acid sol at an SiO_2 content within the range of from 4.5 to 8% by weight to form an alkalised sol having a pH of at least 7;
- (c) allowing particle growth of the alkalised sol for at least 10 minutes; and
- (d) alkalising the obtained sol to a pH of at least 10.0.

37. **(Withdrawn)** The aqueous sol according to claim 36, wherein the process further comprises:

- (e) concentrating the sol obtained according to (c).

38. **(Withdrawn)** The aqueous sol according to claim 36, wherein the process further comprises:

- (e) concentrating the sol obtained according to (d).

39. **(Withdrawn)** The aqueous sol according to claim 37, wherein it has a specific surface area of at least $95 \text{ m}^2/\text{g}$ aqueous sol.

40. **(Withdrawn)** The aqueous sol according to claim 36, wherein the aqueous sol has a molar ratio of SiO_2 to M_2O , where M is alkali metal or ammonium, within the range of from 15:1 to 30:1 and a pH of at least 10.6.

41. **(Withdrawn)** The aqueous sol according to claim 36, wherein the sol comprises an aluminum-containing compound, a boron-containing compound or a mixture thereof.

42. **(Withdrawn)** The aqueous sol according to claim 36, wherein the silica-based particles have a specific surface area of at least $550 \text{ m}^2/\text{g SiO}_2$.

43. **(Currently Amended)** A process for the production of an aqueous sol containing silica-based particles which comprises:

- (a) acidifying an aqueous silicate solution to a pH of from 1 to 4 to form an acid sol;
- (b) alkalising in a first alkalisation step the acid sol at an SiO₂ content within the range of from 4.5 to 8% by weight to form an alkalised sol;
- (c) heat-treating the alkalised sol at a temperature of at least 30°C; and
- (d) alkalising in a second alkalization step the heat-treated sol to a pH of at least 10.0 by adding alkali selected from the group consisting of lithium hydroxide, sodium hydroxide, or potassium hydroxide; an aqueous silicate solution, or a mixture thereof.

44. **(Previously Presented)** The process according to claim 43, wherein the process further comprises:

- (e) concentrating the alkalised sol obtained according to step (b).

45. **(Previously Presented)** The process according to claim 43, wherein the process further comprises:

- (e) concentrating the alkalised sol obtained according to step (c).

46. **(Previously Presented)** The process according to claim 43, wherein the process further comprises:

- (e) concentrating the alkalised sol obtained according to step (d).

47. **(Previously Presented)** The process according to claim 43, wherein the aqueous sol obtained in the process has a specific surface area of at least 90 m²/g aqueous sol.

48. **(Previously Presented)** The process according to claim 43, wherein the aqueous sol obtained in the process has a specific surface area of at least 95 m²/g aqueous sol.

49. **(Previously Presented)** The process according to claim 43, wherein the alkalisation according to (b) and (d) is carried out by means of an aqueous silicate solution.

50. **(Previously Presented)** The process according to claim 43, wherein the heat-treatment according to (c) is carried out for 20 to 240 minutes.

51. **(Previously Presented)** The process according to claim 43, wherein the alkalisation according to (d) produces a sol having a molar ratio of SiO_2 to M_2O , where M is alkali metal or ammonium, within the range of from 15:1 to 30:1 and a pH of at least 10.6.

52. **(Previously Presented)** The process according to claim 43, wherein the process further comprises addition of an aluminum-containing compound, a boron-containing compound or a mixture thereof.

53. **(Previously Presented)** The process according to claim 43, wherein the silica-based particles obtained in the process have a specific surface area of at least $550 \text{ m}^2/\text{g SiO}_2$.

54. **(Withdrawn)** An aqueous sol containing silica-based particles obtained by a process comprising:

- (a) acidifying an aqueous silicate solution to a pH of from 1 to 4 to form an acid sol;
- (b) alkalising the acid sol at an SiO_2 content within the range of from 4.5 to 8% by weight to form an alkalised sol;
- (c) heat-treating the alkalised sol at a temperature of at least 30°C ; and
- (d) alkalising the heat-treated sol to a pH of at least 10.0.

55. **(Withdrawn)** The aqueous sol according to claim 54, wherein the process further comprises:

- (e) concentrating the sol obtained according to (c).

56. **(Withdrawn)** The aqueous sol according to claim 54, wherein the process further comprises:

(e) concentrating the sol obtained according to (d).

57. **(Withdrawn)** The aqueous sol according to claim 54, wherein it has a specific surface area of at least $95 \text{ m}^2/\text{g}$ aqueous sol.

58. **(Withdrawn)** The aqueous sol according to claim 54, wherein it has a molar ratio of SiO_2 to M_2O , where M is alkali metal or ammonium, within the range of from 15:1 to 30:1 and a pH of at least 10.6.

59. **(Withdrawn)** The aqueous sol according to claim 54, wherein it comprises an aluminum-containing compound, a boron-containing compound or a mixture thereof.

60. **(Withdrawn)** The aqueous sol according to claim 54, wherein the silica-based particles have a specific surface area of at least $550 \text{ m}^2/\text{g}$ SiO_2 .

61. **(Currently Amended)** A process for the production of an aqueous sol containing silica-based particles which comprises:

(a) acidifying an aqueous silicate solution to a pH of from 1 to 4 to form an acid sol;

(b) alkalising in a first alkalisation step the acid sol at an SiO_2 content within the range of from 4.5 to 8% by weight to form an alkalised sol;

(c) heat-treating the alkalised sol at a temperature within the range of from 35 to 95°C for 20 to 240 minutes;

(d) alkalizing in a second alkalization step the heat-treated sol to a pH of at least 10.0 and a molar ratio of SiO_2 to M_2O , where M is alkali metal or ammonium, within the range of from 15:1 to 30:1 by adding alkali, an aqueous silicate solution, or a mixture thereof;

(e) concentrating the sol obtained according to (c) or (d); and

(f) providing an aqueous sol which has a specific surface area of at least 95 m²/g aqueous sol and contains silica-based particles which have a specific surface area of at least 550 m²/g SiO₂.

62. **(Previously Presented)** The process according to claim 61, wherein the alkalisation according to step (b) and step (d) is carried out by means of an aqueous silicate solution.

63. **(Previously Presented)** The process according to claim 61, wherein the alkalisation according to (d) produces a pH of at least 10.6.

64. **(Withdrawn)** An aqueous sol containing silica-based particles obtained by a process which comprises:

(a) acidifying an aqueous silicate solution to a pH of from 1 to 4 to form an acid sol;

(b) alkalisng the acid sol at an SiO₂ content within the range of from 4.5 to 8% by weight to form an alkalisng sol;

(c) heat-treating the alkalisng sol at a temperature within the range of from 35 to 95°C for 20 to 240 minutes;

(d) alkalisng the heat-treated sol to a pH of at least 10.0 and a molar ratio of SiO₂ to M₂O, where M is alkali metal or ammonium, within the range of from 15:1 to 30:1;

(e) concentrating the sol obtained according to step (c) or step (d); and

(f) providing an aqueous sol which has a specific surface area of at least 95 m²/g aqueous sol and contains silica-based particles which have a specific surface area of at least 550 m²/g SiO₂.

65. **(Withdrawn)** The aqueous sol according to claim 64, wherein it has a pH of at least 10.6.

66. **(Withdrawn)** An aqueous sol containing silica-based particles, said sol has a specific surface area of at least 115 m²/g aqueous sol and said silica-based

particles have a specific surface area of at least $550 \text{ m}^2/\text{g SiO}_2$ and less than $1000 \text{ m}^2/\text{g SiO}_2$.

67. **(Withdrawn)** The aqueous sol according to claim 66, wherein the sol has a molar ratio of SiO_2 to M_2O , where M is alkali metal or ammonium, within the range of from 15:1 to 40:1.

68. **(Withdrawn)** The aqueous sol according to claim 66, wherein the sol has an S-value within the range of from 25 to 35%.

69. **(Withdrawn)** An aqueous sol containing silica-based particles, wherein the sol has a specific surface area of at least $115 \text{ m}^2/\text{g}$ aqueous sol and an S-value within the range of from 10 to 45%.

70. **(Withdrawn)** The aqueous sol according to claim 69, wherein the sol has a molar ratio of SiO_2 to M_2O , where M is alkali metal or ammonium, within the range of from 15:1 to 40:1.

71. **(Withdrawn)** The aqueous sol according to claim 69, wherein the silica-based particles have a specific surface area of at least $550 \text{ m}^2/\text{g SiO}_2$.

72. **(Withdrawn)** An aqueous silica-based sol having:

- (a) a specific surface area of at least $115 \text{ m}^2/\text{g}$ aqueous sol;
 - (b) an S-value within the range of from 10 to 45%; and
 - (c) a molar ratio of SiO_2 to M_2O , where M is alkali metal or ammonium, within the range of from 15:1 to 40:1;
- and containing
- (d) silica-based particles which have a specific surface area of at least 550 and less than $1000 \text{ m}^2/\text{g SiO}_2$.